

1. (Twice Amended) An etching agent for copper comprising an aqueous solution containing potassium hydrogen peroxomonosulfate, a concentration of said potassium hydrogen peroxomonosulfate falling within a range of about 10.01% to about 23.31% by weight of the etching agent.

BEST AVAILABLE COPY

REMARKS

Rejection of Claims 1 and 2 under Kubotera under §103(a)

In the Office Action, claims 1 and 2 stand rejected under 35 U.S.C. §103(a) as being anticipated by Condra et al. and Kubotera et al. Applicants have amended independent Claim 1, and submit that Claims 1 and 2 are patentable over Condra and Kubotera.

The Examiner states that Condra, in conjunction with Kubotera, makes obvious the arrangement recited in Claim 1. Kubotera teaches an etching reagent that comprises an oxidizing agent used in a concentration of 0.01% to a maximum of about 10% by weight. Kubotera teaches away from using a higher concentration by stating that there is no advantage to be gained by such a higher concentration. Amended Claim 1, on the other hand, recites an oxidizing agent concentration of a minimum of about 10.01% to about 23.31%. This higher concentration is desirable as it results in a highly uniform amount of side-etching. This range is further supported in the application, as the maximum potassium hydrogen peroxomonosulfate concentration is about 2.0 mol/L, which is about 23.31% by weight of potassium hydrogen peroxomonosulfate. Thus, Kubotera does not anticipate or disclose the range of potassium hydrogen peroxomonosulfate concentration recited in Claim 1.

Thus, neither Kubotera nor Condra, alone or in combination, anticipate or suggest the arrangement of amended Claim 1. Applicants submit that amended Claim 1 overcomes the §103(a) rejection. Applicants further respectfully submit that Claim 2 is dependent on Claim 1, and therefore also overcomes the §103(a) rejection.

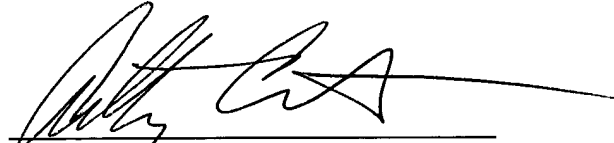
Conclusion

In view of the amendments and arguments above, Applicants respectfully submit that all of the pending claims are in condition for allowance and seek an early allowance

thereof. If for any reason the Examiner is unable to allow the application in the next Office Action and believes that a telephone interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned.

Respectfully submitted,

BEST AVAILABLE COPY



Anthony P. Curtis, Ph.D.
Registration No. 46,193
Agent for Applicant

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200



APPENDIX A
Serial No. 09/595,415
Etching Reagent and Method for Manufacturing Electronic Device
Substrate and Electronic Device
Seki et al.

In the Claims

BEST AVAILABLE COPY

Please amend Claim 1 as follows:

1. (Twice Amended) An etching agent for copper comprising an aqueous solution containing potassium hydrogen peroxomonosulfate, a concentration of said potassium hydrogen peroxomonosulfate falling within a range of about 0.08 mol/L to about 2.0 mol/L 10.01% to about 23.31% by weight of the etching agent.

RECEIVED
OCT 17 2002
10-1700 MAIL ROOM